

**Notice of Allowability**

Application No.

10/628,261

Examiner

Siu M. Lee

Applicant(s)

KITAMURA, MAMORU

Art Unit

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/16/2006.
2. ☒ The allowed claim(s) is/are 1 and 2.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

1. Authorization for this examiner's amendment was given in a telephone interview with Larry J. Hume on 12/5/2006.

(1) In claim 2, line 3, insert ---the method comprising:--- after "to output an analog audio signal".

(2) In claim 2, line 7, replace "detecting or generating" with ---detecting and generating---.

(3) In claim 2, line 10, replace "compensate the pulse width" with ---compensate a pulse width---.

### ***Response to Amendment***

2. Applicant's amendment filed on 11/16/2006 has been fully considered and as a result claims 1-2 are now indicated allowable. Therefore, the examiner withdraws objections to claims 1-2 cited in the previous office action. The amendment to the drawing (figure 1) and the specification is hereby acknowledged. The amendment is considered acceptable.

### ***Response to Remarks***

3. Applicant's remarks filed 11/16/2006 with respect to claims 1-2 on page 6 have been fully considered and are persuasive. As a result, claims 1-2 are now allowed.

***Allowable Subject Matter***

4. Claims 1-2 allowed.

5. The following is an examiner's statement of reasons for allowance:

The present invention comprises the apparatus and method for audio reproduction. The apparatus comprises an amplification means comprised of a plurality of switching elements for amplifying the audio signal; a drive means for generating a drive control signal based on the pulse width modulation signal and controlling ON and OFF of the switching elements according to the drive control signal so as to drive the amplification means; and a compensation means for compensating a pulse width of the drive control signal by using a signal according to an offset voltage appeared in the amplification means due to variations in characteristics of the switching elements, and wherein the compensation means includes waveform formation means for dulling an edge of a pulse shape of the pulse width modulation signal; and comparison means for comparing the pulse width modulation signal of which edge is dulled by the waveform formation means to a threshold and outputting a pulse signal having the pulse width according to a comparison result and also rendering the threshold variable by using the signal according to the offset voltage. The closest prior art Holcombe (US 6,169,765 B1) disclose an apparatus and method for output signal pulse width error correction in a communications receiver comprises a low-pass filter (waveform formation means) coupled to the input terminal and produce a ramped signal having sloped edges responsive and a variable pulse width comparator (comparison means) configured to

compare the ramped signal to a pulse width control voltage and produce a digital signal. However, Holcombe fails to disclose an amplification means comprised of a plurality of switching element for amplifying the audio signal; and drive means for generating a drive control signal based on the pulse width modulation signal and controlling ON and OFF of the switching elements according to the drive control signal so as to drive the amplification means; and a compensation means for compensating a pulse width of the drive control signal by using a signal according to an offset voltage appeared in the amplification means due to variations in characteristics of the switching elements. The distinct features have been added to claim 1, therefore, rendering it allowable.

Regarding claim 2, Holcombe fails to disclose the method of detecting or generating a signal according to an offset voltage of amplification means comprised of a plurality of switching elements and rendering the threshold variable by using the signal according to the offset voltage so as to compensate the pulse width of a drive control signal of the amplification means generated based on the pulse width modulation signal. The distinct features have been added to claim 2, therefore, rendering it allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Siu M. Lee whose telephone number is (571) 270-1083. The examiner can normally be reached on Mon-Fri, 7:30-4:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Siu M. Lee  
12/5/2006

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER